

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number  
**WO 2005/078770 A3**

(51) International Patent Classification<sup>7</sup>: **H01L 51/30**,  
51/20

(21) International Application Number:  
PCT/US2004/043179

(22) International Filing Date:  
16 December 2004 (16.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/531,285 19 December 2003 (19.12.2003) US

(71) Applicant (for all designated States except US): **THE REGENTS OF THE UNIVERSITY OF CALIFORNIA** [US/US]; Office Of Technology Transfer, 1111 Franklin Street, 5th Floor, Oakland, CA 94607-5200 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **GRUNER, George** [US/US]; 960 Kentfield Avenue, Los Angeles, CA 90049 (US).

(74) Agents: **RAM, Michael, J.** et al.; Koppel, Jacobs, Patrick & Heybl, 555 St. Charles Drive, Suite 107, Thousands Oaks, CA 91360 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

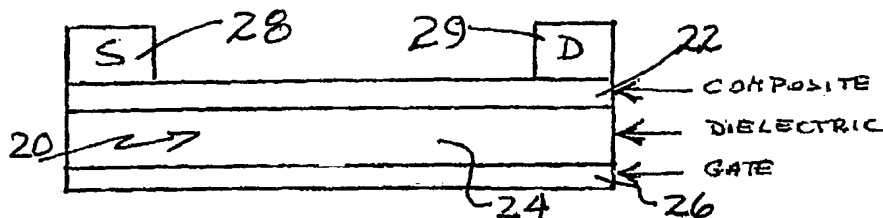
**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
26 January 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ACTIVE ELECTRONIC DEVICES WITH NANOWIRE COMPOSITE COMPONENTS



(57) Abstract: Active, electrical, electronic and optoelectronic components and structures are fabricated to include composites containing electrically conductive nanostructures as part thereof. These nanostructures include nanowires, nanofibres, nanoribbons, nanoplates or nanotubes as single structures or an assembly of multiple structures. They are composed of carbon or other conductive materials.



WO 2005/078770 A3